

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Timothy J. Ley, Brian J. Brown
Application No.: 10/055307
Filed: January 23, 2002
For: Multi-Layer Stent
Examiner: Victor Nguyen
Group Art Unit: 3731
Firm Docket No.: S63.2B-8618-US01

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Following please find a(n) 6 page Response to Restriction Requirement; and 1 page Facsimile Transmittal Letter.

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Respectfully submitted,
VIDAS, ARRETT & STEINKRAUS

Date: June 29, 2004

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Docket No.: S63.2B-8618-US01

Response to Restriction Requirement

This communication is in response to the Office Action dated **June 10, 2004**.

If an extension of time is required to make this response timely and no separate petition is enclosed, Applicants hereby petition for an extension of time sufficient to make the response timely. In the event that this response requires the payment of government fees and payment is not enclosed, please charge Deposit Account No. 22-0350.

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Status of the Claims:

1. (Original) A stent having a reduced state and an expanded state, and further having longitudinal axis therethrough, the stent comprising at least one serpentine segment having a proximal end and a distal end, the serpentine segment comprising a plurality of peaks and troughs, in the reduced state a plurality of first peaks disposed at a first distance from a longitudinal axis of the stent and a plurality of second peaks disposed at a second distance from the longitudinal axis of the stent, the second distance less than the first distance, the first peaks defining a substantially cylindrical outer surface of the segment.
2. (Original) The stent of claim 1 wherein the plurality of peaks further include third peaks, the first peaks, second peaks and third peaks arranged in a regular alternating pattern about the longitudinal axis, in the reduced state the third peaks disposed at a third distance from the longitudinal axis of the stent, the third distance less than the first distance and the second distance.
3. (Original) The stent of claim 2 wherein the plurality of peaks further include fourth peaks, the first peaks, second peaks, third peaks and fourth peaks arranged in a regular alternating pattern about the longitudinal axis, in the reduced state the fourth peaks disposed at a fourth distance from the longitudinal axis of the stent, the fourth distance less than the first distance, the second distance and the third distance.
4. (Original) The stent of claim 1 wherein in the expanded state, the first and second peaks are equidistant from the longitudinal axis of the stent.
5. (Original) The stent of claim 1 wherein the troughs include first troughs and second troughs arranged in a regular alternating pattern about the longitudinal axis, the first troughs disposed at a first distance from the longitudinal axis of the stent, the second troughs disposed at a second distance from the longitudinal axis of the stent, the second distance different from the first distance.
6. (Original) The stent of claim 2 wherein the troughs include first troughs, second troughs and third troughs arranged in a regular alternating pattern about the longitudinal axis, the first troughs disposed at a first distance from the longitudinal axis of the stent, the second troughs disposed at a second distance from the longitudinal axis of the stent, the third troughs disposed at a third distance from the longitudinal axis of the stent, the first distance different from the second

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distance and third distance.

7. (Original) The stent of claim 6 wherein the first distance is different from the second distance and third distance, the second distance is different than the third distance.
8. (Original) The stent of claim 1 comprising a plurality of serpentine segments.
9. (Original) The stent of claim 8 wherein serpentine segments which are adjacent one another are connected one to the other.
10. (Original) The stent of claim 1 wherein the second peaks define a substantially cylindrical inner surface of the segment.
11. (Original) The stent of claim 10 wherein the substantially cylindrical inner surface of the segment tapers outward toward the substantially cylindrical outer surface of the segment.
12. (Original) A tubular stent having a longitudinal axis therethrough, the stent comprising at least one segment having a proximal end and a distal end,
the distal end comprising a plurality of distal closed portions and distal open portions alternating with one another, the distal closed portions including first distal closed portions disposed at a first distance from the longitudinal axis of the stent and second distal closed portions disposed at a second distance from the longitudinal axis of the stent, the second distance less than the first distance, the first and second distal closed portions arranged in a regular alternating pattern about the longitudinal axis of the stent, the first distal closed portions defining a substantially cylindrical outer surface of the segment,
the proximal end comprising a plurality of proximal closed portions and proximal open portions alternating with one another.
13. (Original) The stent of claim 12 expandable from a first unexpanded configuration to a second expanded configuration.
14. (Original) The stent of claim 13 wherein in the expanded configuration, the first and second distal closed portions are equidistant from the longitudinal axis of the stent.
15. (Original) The stent of claim 13 wherein the first and second distal closed portions alternate with one another about the segment.
16. (Original) The stent of claim 12 wherein the proximal closed portions include first proximal closed portions disposed at a first distance from the longitudinal axis of the stent and second proximal closed portions disposed at a second distance from the longitudinal axis of the stent, the

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second distance different from the first distance, the first and second proximal closed portions arranged in a regular pattern relative to the longitudinal axis of the stent.

17. (Original) The stent of claim 12 wherein the segment is serpentine.

18. (Original) The stent of claim 12 wherein the segment includes a plurality of cells with openings therethrough.

19. (Original) The stent of claim 14 wherein the second closed portions define a substantially cylindrical inner surface of the segment.

20. (Original) The stent of claim 19 wherein the substantially cylindrical inner surface of the segment tapers outward toward the substantially cylindrical outer surface of the segment.

21. (Original) A stent expandable from a first unexpanded configuration to a second expanded configuration and having a longitudinal axis therethrough, the stent comprising:

at least one segment having a proximal region and a distal region, the distal region comprising a plurality of distal closed portions, the proximal region comprising a plurality of proximal closed regions; and

a plurality of struts extending between the distal region and the proximal region, in the first unexpanded configuration the plurality of struts being a first distance from the longitudinal axis, and in the second expanded configuration the struts being a second distance from the longitudinal axis, the first distance being less than the second distance.

22. (Original) The stent of claim 21 wherein the distal region further comprises a plurality of distal open portions alternating arranged with the distal closed portions and the proximal region further comprises a plurality of proximal closed portions and proximal open portions alternating arranged with one another.

23. (Original) The stent of claim 21 wherein the struts define a substantially cylindrical inner surface of the segment when the stent is in the unexpanded configuration.

24. (Original) The stent of claim 21 comprising a plurality of first struts and a plurality of second struts, each distal closed portion having one first strut extending therefrom to one proximal closed portion and one second strut extending therefrom to another proximal closed portion.

25. (Original) The stent of claim 21 wherein the segment is serpentine.

26. (Original) The stent of claim 21 wherein the distal closed portions and proximal closed portions include a plurality of cells with openings therethrough.

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27. (Original) The stent of claim 21 comprising a plurality of segments, segments which are adjacent one another and connected to one another.
28. (Original) An expandable stent having a longitudinal axis therethrough, the stent comprising a plurality of cylindrical segments, each segment formed of a plurality of interconnected struts, the cylindrical segments including a first cylindrical segment and a second cylindrical segment connected to the first segment, at least a portion of the first segment and at least a portion of the second segment in overlapping relationship when the stent is in an unexpanded state, and the first and second segments are in a non-overlapping relationship when the stent is in an expanded state.
29. (Original) The stent of claim 28 further comprising a third cylindrical segment at least a portion of which is in overlapping relationship with at least a portion of the second cylindrical segment in the unexpanded state.
30. (Original) The stent of claim 29 further comprising a plurality of cylindrical segment at least a portion of each cylindrical segment in overlapping relationship with at least a portion of an adjacent cylindrical segment in the unexpanded state.
31. (Original) The stent of claim 30 wherein cylindrical segments which are adjacent one another are in overlapping relationship in the unexpanded state.
32. (Original) The stent of claim 30 wherein the first and second cylindrical segments are serpentine.
33. (Original) The stent of claim 30 wherein the first cylindrical segment comprises a plurality of cells with openings therethrough and the second segment comprises a plurality of cells with openings therethrough.
34. (Original) The stent of claim 30 wherein the cylindrical segments are disposed in a herringbone pattern.
35. (Original) The stent of claim 30 wherein the first cylindrical segment is characterized by a first radius and the second cylindrical segment is characterized by a second radius, the second radius smaller than the first radius.
36. (Original) A stent comprising a plurality of segments which are disposed in a herringbone pattern.

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Remarks

This communication is in response to the Restriction Requirement dated **June 10, 2004**. Applicants provisionally elect species I, corresponding to the embodiment shown in FIGs. 1-2 and the embodiment shown in FIGs. 3-4. Claims 1, 4, 5, 8-28, 32-33, and 35 are believed to read on the elected species.

Applicants note that the disclosure of the Application includes additional embodiments of the invention which may not be represented by the identified species.

Respectfully submitted,

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Date: June 29, 2004

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